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Canadian Society of Civil Engineers.

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TRANSACTIONS.

N.B.—This Society, as a body, does not hold itself responsible for the facts and opinions stated in any of its publications.

THE PROFESSIONAL STATUS.

An epitome of opinion gathered from the answers of correspondents to the draft circular of the Special Committee, by

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The distribution of the draft report on professional status among the members of the Society has brought out a large number of answers. The suggestions are:—

1. That Provincial and Dominion land surveyors should be prevented from practising as Civil Engineers, unless they belong to the Can. Soc. C. E.;

2. That an appeal should be made in each province to have members of the Can. Soc. C. E. of all grades recognised as professional men, with the right to collect and sue for fees;

3. That no practitioner be entitled to designate himself a Civil Engineer unless he belongs to the Can. Soc. C. E., pointing to the formation of a close profession. These have been answered in the affirmative by almost every correspondent.

The members resident in Toronto adopted the final suggestion of the draft report at an open meeting, which reads:—

"That at present it is advisable to promote a high professional standard of practice through the medium of the Society, by issuing a code of ethics and regulations to govern engineering practice in the Dominion."

One correspondent is opposed to the formation of a close corporation with arbitrary powers in the hands of a "few members of our Society," as entirely opposed to liberal and enlightened principles; he also objects to the proposal to ask Universities to stop granting the degree of C. E., as likely to lead to a debasement of education in the profession.

Many interesting and valuable suggestions have been made by correspondents. The answers coming from members all over the Dominion are worthy of very careful consideration; and as some of them may not be able to take part in oral discussion at any meeting of the Society, and particularly at the annual meeting, a short synopsis of the opinions is presented for the consideration of the Society.

The privileges granted to Provincial land surveyors, under the charters of the several provinces, is noticed by many, who point out how far they can infringe upon the sphere of the engineer whilst he is unable to compete with them in their specially protected line. One of the Ontario Statutes, "The Ditches and Water-Courses Act," sets forth that "Engineer" shall mean Civil Engineer, "Ontario land surveyor," *or such person as the municipality may deem competent to act*, and in the following clauses he is termed "the Engineer." In another, the "Drainage Act," there is no definition of the term Engineer; the Council may procure an engineer or "Ontario land surveyor," and in 13 cases the man so "procured" is termed the "Engineer" or "Surveyor," and it is under his certificates that payments are to be made for the work.

Recently enacted changes in the Ontario Land Surveyors Act have placed the theory and practice of levelling and laying out of curves on the list of subjects necessary for examination, thereby making a qualification for the surveyor to hold position as "engineer" or "surveyor" under the acts already mentioned. In this connection it has been suggested that an effort be made at the next session of the Ontario legislature, when the bills to amend the Land Drainage Act come before the House, to limit the township councils to the employment of only members or associate members at the Can. Soc. C. E. and Ontario land surveyors.

Correspondents in each of the provinces of Quebec, Ontario and Manitoba are hopeful of success in obtaining legislation in the local houses requiring municipalities to employ only engineers who are connected with the Can. Soc. C. E., to design and superintend construction of all public works, and one proposes that no debentures by laws shall be valid which have not been based on estimates prepared by engineers so qualified. One writer endorses his views by stating that the reasons which should be given for urging the passage of such an act are that the safety of the life and property of our citizens demands that no public works should be constructed by persons not properly qualified. It is as much in the interest of the capitalist as of the ordinary user of a railway or a bridge or a sewered district, that a stop should be put to the proceedings of unqualified persons.

In the North-West Territories, close professions seem to have obtained a solid foothold. It appears to be illegal for anyone to practise in law, medicine, dentistry, veterinary surgery or public teaching, until they belong to these Guilds or Societies; the same holds good for Manitoba and British Columbia in many callings which are recognised as professions in the acts creating them close corporations.

The province of Ontario has passed several acts in late years regulating the practice of a number of businesses, thereby forming them into professions, and granting them "close" corporations; this policy was reversed at the last session, and it is doubtful if engineers would now be successful were an effort to be made to seek incorporation as a close profession in that province.

All the members who express an opinion are in favor of applying for and obtaining a Dominion charter in preference to local rights. The proposal to appeal to local legislatures is thrown out as a temporary measure to establish the ground for a more extensive appeal to the higher legislature and more extended legislation.

There is a general agreement that members should be fitted for the profession by a proper course of education; considerable divergence of opinion exists on the suggestion in the draft report that Universities should be asked to stop granting the degree of C. E. Some think it would lead to abuses of the power granted to the Council, who could reject an applicant from personal motives of pique, or otherwise; others consider the Society as at present constituted not exactly fitted for the task, and one or two fear it would have an injurious effect on engineering education. On this subject some correspondents have entered into details which we are not ready to discuss.

From the suggestions made by numerous correspondents, one readily perceives that the subject of improved status is foremost in the minds of all our members; and from the details given, there is no difficulty in perceiving the anxiety pervading the profession for an immediate elevation of the status.

One point has cropped up frequently in the discussion, which underlies in a great measure the difficulty with which we will be confronted in this movement. The question is frequently asked: How can you define Civil Engineering as a profession? What is Civil Engineering? Many engineers who do not belong to the Society have said to the writer: the Canadian Society is not a society of "Civil" Engineers, because it embraces in its membership all classes,—mechanical, electrical and mining; and they say as they belong to one of these branches they do not consider themselves "Civil" Engineers,

consequently they are not eligible for membership, and do not wish to become members. The next step of their argument is, that they are now in full practice in their respective branches of engineering; should a close profession be formed with protective rights to the Society only, they would be thrown out of employment, or be obliged to practise against the law, and be liable to prosecution.

It is also asked: What is to be the position of an engineer from a foreign country, in full practice, and belonging to one of the national societies or other great engineering associations in other lands; is this engineer to be debarred from practising, or how is he to be licensed? Must he pass examinations?

It may be somewhat difficult at present to give an answer which will satisfy every objection to the term "Civil" Engineer, as many objectors contend that the definition in the charter and by-laws goes beyond the limits of the "Civil" engineer when it recites that it "shall mean all who are or who have been engaged in the designing "or construction of railways, canals, harbours, light-houses, bridges, "roads, river improvements and other hydraulic works, sanitary, "electrical, mining, mechanical or military works in the study and "practice of navigation by water or air, or in the directing of the "great sources of power in nature for the use and convenience of man." The objectors point out that the limits of the Society are too elastic; they are opposed to mining, mechanical or electrical engineers being called "Civil" engineers. Some members of our Society practising in these branches have expressed doubts as to their right to belong to a society of "Civil" Engineers. There seems to be an under-current of feeling in favour of dropping the affix "Civil" and calling the Society the Canadian Society of Engineers. Several practitioners, who are not now members, have expressed their readiness and willingness to join if the name could be changed as suggested above.

The writer desires to express briefly his personal views on some of the points raised in the discussion. On the subject of education, he would advocate the fullest use of the advantages now offered to students in our magnificently equipped and endowed Universities; he has strenuously advocated a thorough education through the means of these schools, and he is heartily in accord with the work they do in training our young men. On the point of the degree, he is in favour of dropping the C.E., and giving some other degree, as, for instance, in Applied Science, leaving the C. E. to be obtained from the Society after the graduate has fulfilled conditions to be laid down by the Society.

The writer would recognise the standing of an engineer who belonged to any of the leading well known societies, and admit him to membership and right to practise on complying with some light formality. He would advocate reciprocity rather than restriction; he admits that one consequence of the proposed new condition would be that an engineer could only practise as long as he paid his annual fees or dues to the Society: the rule obtains in other professions, there is no reason why it should not be successful in engineering. The writer fails to comprehend the difficulty which appears to have arisen in the minds of many members, that Engineering cannot be so designated as to be called a profession; it seems to him that there is no more difficulty in defining Civil Engineering than there is in defining Law, Medicine or Theology.

With reference to the present position of the Society, the object and purpose, as set forth in the charter, is "to facilitate the acquirement "and interchange of professional knowledge among its members, and "more particularly to promote the acquisition of that species of "knowledge which has special reference to the profession of Civil "Engineering, and, further, to encourage investigation in connection "with all branches and departments of knowledge connected with the "profession." Under this charter we are perhaps unable to assume the more extended duties of controlling professional practice by licensing our practitioners.

The writer was unfortunately not able to be present at the meeting of the Am. Soc. C. E. in Chicago in August, when the report on

Ethics was presented; he has been informed that those who spoke on the subject expressed themselves satisfied with the existing code of honour, and did not consider it a part of the duty of the Society to formulate a code of Ethics. These opinions apply to our Society as presently constituted, there is no reason why the same powers and duties should not be conferred on our Society, which have lately been obtained by the Ontario land surveyors, who enjoy, under an act assented to in April last year, power to have a perpetual succession and common seal, hold real estate up to a certain value, over which the usual powers are given, and *inter alia*, to dispose of fines and fees payable under the Act, or any by-law passed by the Association, and regulate:—

(*a*) Government, discipline and honour of its members;

(*b*) Management of its property;

(c) Examination and admission of candidates for the study and practice of the profession;

(*d*) And for all such other purposes as may be necessary for the working of the corporation.

Powers such as the above, the writer hopes, will one day be conferred on our Society; his earnest desire is to see the Canadian Society the centre of the engineering profession in the Dominion, with such value attached to its membership as to be a guarantee of an Engineer's standing. He believes that it will be in the best interests of the profession for the Society to have the power of regulating the practice of Engineering. There will be no lowering of its dignity, the present objects of the Society as a channel "to facilitate the acquirement and interchange of professional knowledge" among its members will be maintained, an impetus given to "encourage investigation in connection with all branches and departments of knowledge connected "with the profession," and an *esprit de corps* formed amongst its members which will be an indissoluble bond.

The history of the medical profession in Scotland is a perfect example of this. About this time last century the status was very low, the influence of the medical schools was hardly felt, the condition of the practitioner in the North, particularly under the Aberdeen school, deplorable. One or two bright minds set to work to remedy the evil, and before half a century had passed the Aberdeen Medical School could point with pride to many names on its roll which were rapidly spreading its fame; and now, after a century, it can take pride in the list of illustrious graduates who have passed out of its halls. Aberdeen had no noble benefactors, there was not sufficient wealth in the country to enable any patron to make princely gifts to education, the improvement came from within, the whole body of the profession set itself to right the abnormal condition, the spirit which animated the profession is found in the words of one of the professors, who concluded his inaugural address with these words: "The road to eminence is "steep and rugged, and has unfortunately caused many to seek for "mean and dishonest methods of self advancement. Be satisfied that "such are not lasting, and that the man who has been just to his pro-"fession is alone in possession of true greatness."

Is not the position of Engineering in Canada to-day in such a condition that it requires only a little careful management to bring about results which will have the most beneficial effects even before this century shall have died out?

The medical profession in Canada labours at present under many disadvantages due to provincial charters, which prevent free intercourse between practitioners in neighbouring provinces; the laws as they stand at present prevent an Ontario graduate from practising in any other province until he has passed examinations similar to those he passed on leaving college; it matters not how high his standing may be, he has to undergo the same treatment as the lad emerging from College. A movement has been initiated to have reciprocity between the several medical schools in the various provinces, the details of which the writer hopes to acquire ere long, when they will be given as an addendum to this discussion.